AMENDMENTS TO THE CLAIMS

This Listing of Claims replaces all prior Listings and versions of claims in the above-identified application.

Listing of Claims

1-76. (Cancelled)

77. (Previously presented) A pharmaceutical composition comprising the fusion protein of Claim 125 in a pharmaceutically acceptable carrier.

78. (Previously presented) A composition comprising the fusion protein of Claim 125, wherein said fusion protein is dimeric and wherein said composition is essentially free of monomeric fusion protein.

79. (Cancelled)

80. (Previously presented) A nucleic acid encoding the fusion protein of Claim 125.

81. (Currently Amended) ~~A host~~An isolated host cell transfected or transformed with the nucleic acid of claim 80, enabling the host cell to express the fusion protein.

82. (Currently Amended) The isolated host cell of claim 81, wherein the host cell is a eukaryotic cell.

83. (Currently Amended) The isolated host cell of claim 82, wherein the eukaryotic cell is a mammalian cell.

84. (Previously presented) A method of producing a fusion protein of Claim 125, comprising:

a) transfecting or transforming a host cell with an expression vector comprising at least one nucleic acid encoding the fusion protein of Claim 125;

b) culturing the host cell under conditions effective to express said fusion protein; and

c) harvesting the fusion protein expressed by the host cell.

85. (Previously Presented) A method of purifying the fusion protein of Claim 125, comprising:

a) obtaining a composition comprising the fusion protein; and

b) isolating the fusion protein from contaminants by column chromatography.

86. (Previously Presented) The method of claim 85, wherein the fusion protein is isolated from contaminants by size-exclusion chromatography.

87. (Withdrawn-previously presented) A method of treating a condition treatable with erythropoietin, comprising administering an effective amount of the fusion protein of Claim 125 to a patient in need thereof.

88. (Cancelled)

89. (Withdrawn) The method of claim 87, wherein the condition is a deficient hematocrit, and wherein administration of the fusion protein increases the hematocrit of the patient.

90.-124. (Cancelled)

125. (Previously Presented) A fusion protein comprising a human erythropoietin protein joined without an intervening peptide linker to a human immunoglobulin (Ig) domain that does not contain a variable region wherein the Ig domain is selected from the group consisting of full-length IgG-Fc, IgG-C_H and IgG-C_L, wherein the fusion protein consists of the natural human erythropoietin amino acid sequence and the natural human immunoglobulin domain amino acid sequence at the junction of the fusion protein.

126. (Previously Presented) A fusion protein comprising a human erythropoietin protein joined without an intervening peptide linker to a human immunoglobulin (Ig) domain that does not contain a variable region wherein the Ig domain is selected from the group consisting of full-length IgG-Fc, IgG-C_H and IgG-C_L, wherein the fusion protein consists of a natural human erythropoietin amino acid sequence and a natural human immunoglobulin domain amino acid sequence at the junction of the fusion protein, and wherein the fusion protein has an EC_{50} of less than about 10 ng/ml in an EPO-dependent *in vitro* bioassay using a human UT7/epo cell line that proliferates in response to EPO.

127. (Previously presented) The fusion protein of Claim 125, wherein the erythropoietin is a full-length human erythropoietin.

128. (Previously presented) The fusion protein of Claim 125, wherein said fusion protein has an EC_{50} of less than 4 ng/ml in an EPO-dependent *in vitro* bioassay using a human

UT7/epo cell line that proliferates in response to EPO.

129. (Previously presented) The fusion protein of Claim 125, wherein said fusion protein has an EC_{50} within 4 fold of the EC_{50} of non-fused EPO, on a molar basis, in an EPO-dependent *in vitro* bioassay using a human UT7/epo cell line that proliferates in response to EPO.

130.-136. (Cancelled)

137. (Previously Presented) A fusion protein comprising a human erythropoietin protein joined without an intervening peptide linked to a human immunoglobulin (Ig) domain that does not contain a variable region wherein the Ig domain is selected from the group consisting of full-length IgG-Fc, IgG-C_H and IgG-C_L, wherein the fusion protein comprises the natural human erythropoietin amino acid sequence and the natural human immunoglobulin domain amino acid sequence at the junction of the fusion protein, and wherein the fusion protein has an EC_{50} of less than about 1000 ng/ml in an EPO-dependent *in vitro* bioassay using a human UT7/epo cell line that proliferates in response to EPO.

138. (Previously presented) A fusion protein comprising erythropoietin joined at its carboxy-terminus by a peptide linker to the amino terminus of an immunoglobulin domain that does not contain a variable region, wherein the peptide linker is $Ser(GlyGlySer)_2$ (SEQ ID NO:3).

139. (Cancelled)

140. (New) A pharmaceutical composition comprising the fusion protein of Claim 138 in a pharmaceutically acceptable carrier.

141. (New) A composition comprising the fusion protein of Claim 138, wherein said fusion protein is dimeric and wherein said composition is essentially free of monomeric fusion protein.

142. (New) A nucleic acid encoding the fusion protein of Claim 138.

143. (New) An isolated host cell transfected or transformed with the nucleic acid of claim 142, enabling the host cell to express the fusion protein.

144. (New) The isolated host cell of claim 143, wherein the host cell is a eukaryotic

cell.

145. (New) The isolated host cell of claim 144, wherein the eukaryotic cell is a mammalian cell.

146. (New) A method of producing a fusion protein of Claim 138, comprising:

a) transfecting or transforming a host cell with an expression vector comprising at least one nucleic acid encoding the fusion protein of Claim 138;

b) culturing the host cell under conditions effective to express said fusion protein; and

c) harvesting the fusion protein expressed by the host cell.

147. (New) A method of purifying the fusion protein of Claim 138, comprising:

d) obtaining a composition comprising the fusion protein; and

e) isolating the fusion protein from contaminants by column chromatography.

148. (New) The method of claim 147, wherein the fusion protein is isolated from contaminants by size-exclusion chromatography.